ORIGINAL 548

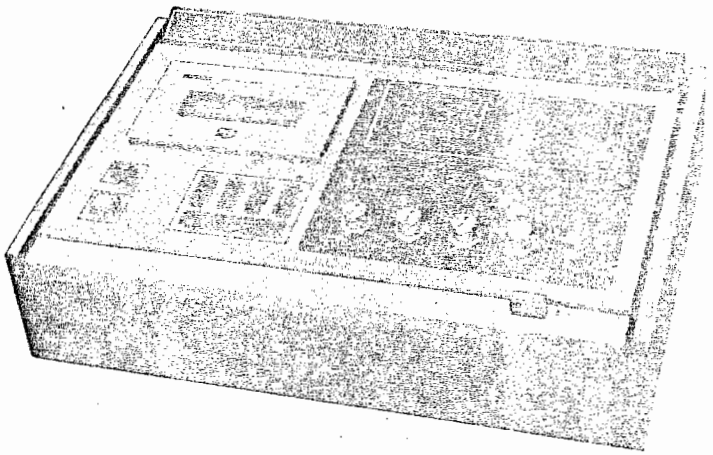
Service Manual

Technics

TAPE RECORDER

Technics

3-HEAD, 2-MOTOR, HIGH FIDELITY STEREO CASSETTE DECK



This is the Service Manual of Model RS-279US for European PX.

MODEL RS-279US

SPECIFICATIONS

Power Source:	AC: 90~109, 110~125, 200~219, 220~250 volts, 50/60 Hz
Power Consumption:	Approx. 30 W
Motors:	2-motor system, 1-direct drive brushless motor for capstan drive 1-DC motor for reel table drive
Transistors:	2SC1327(4) 2S 644(4) 2SC828(22) 2SC828(4) 2SC881(2) 2SC1096(1) 2SD945(1) 2SC1317(3) 2SK37(2) 2SA564(2)
Diodes & Rectifiers:	OA90Z(8) 10DC1(3) EQA0119(1) SD1Y(3) 10DC1R(1) 1S1211(6) RD7A(1)
Recording System:	AC bias, 100 kHz
Erase System:	AC erase
Track System:	4-track, 2-channel stereo
Tape Speed:	1-7/8 ips (4.8 cm/s)
Frequency Response:	20~16,000 Hz (with normal tape) 20~18,000 Hz (with CrO_2 tape)
Signal to Noise Ratio:	Better than 50 dB (in normal operation) Better than 60 dB (in Dolby operation)
Wow and Flutter:	Less than 0.1%
Inputs:	2-MIC −70 dB (0.3 mV)/600~20 KΩ 2-LINE −30 dB (30 mV)/220 KΩ 1-DIN −36 dB/2 KΩ
Outputs:	2-LINE −6 dB (500 mV) load impedance 50 KΩ over 1-DIN −6 dB/3 KΩ 1-HEADPHONE 8Ω
Fast Forward and Rewind Time:	Approx. 100 seconds with C-60 cassette tape
Program Time:	1 hour stereo recording with C-60 cassette tape
Dimensions:	17-1/4"(W) × 4-1/2"(H) × 13-1/4"(D) 440mm(W) × 115mm(H) × 325mm(D)
Weight:	Approx. 19-7/8 lbs. (9 kg)

These specifications are subject to change in order to accommodate improvements in design.

MATSUSHITA ELECTRIC
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ORDER NO. ARD-730908S

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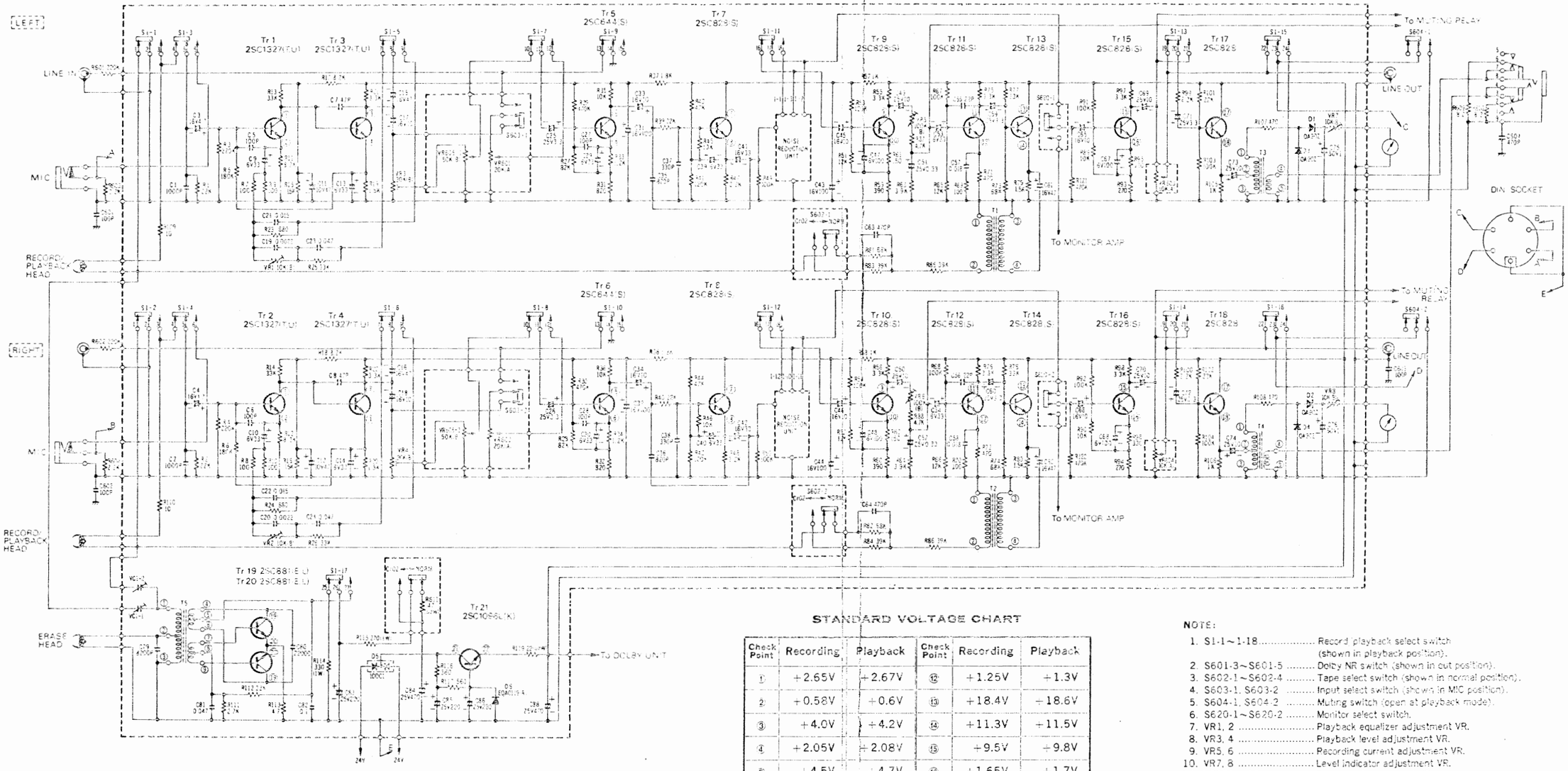
SCHEMATIC DIAGRAM MODEL RS-270US

MAIN CIRCUIT



STANDARD VOLTAGE CHART

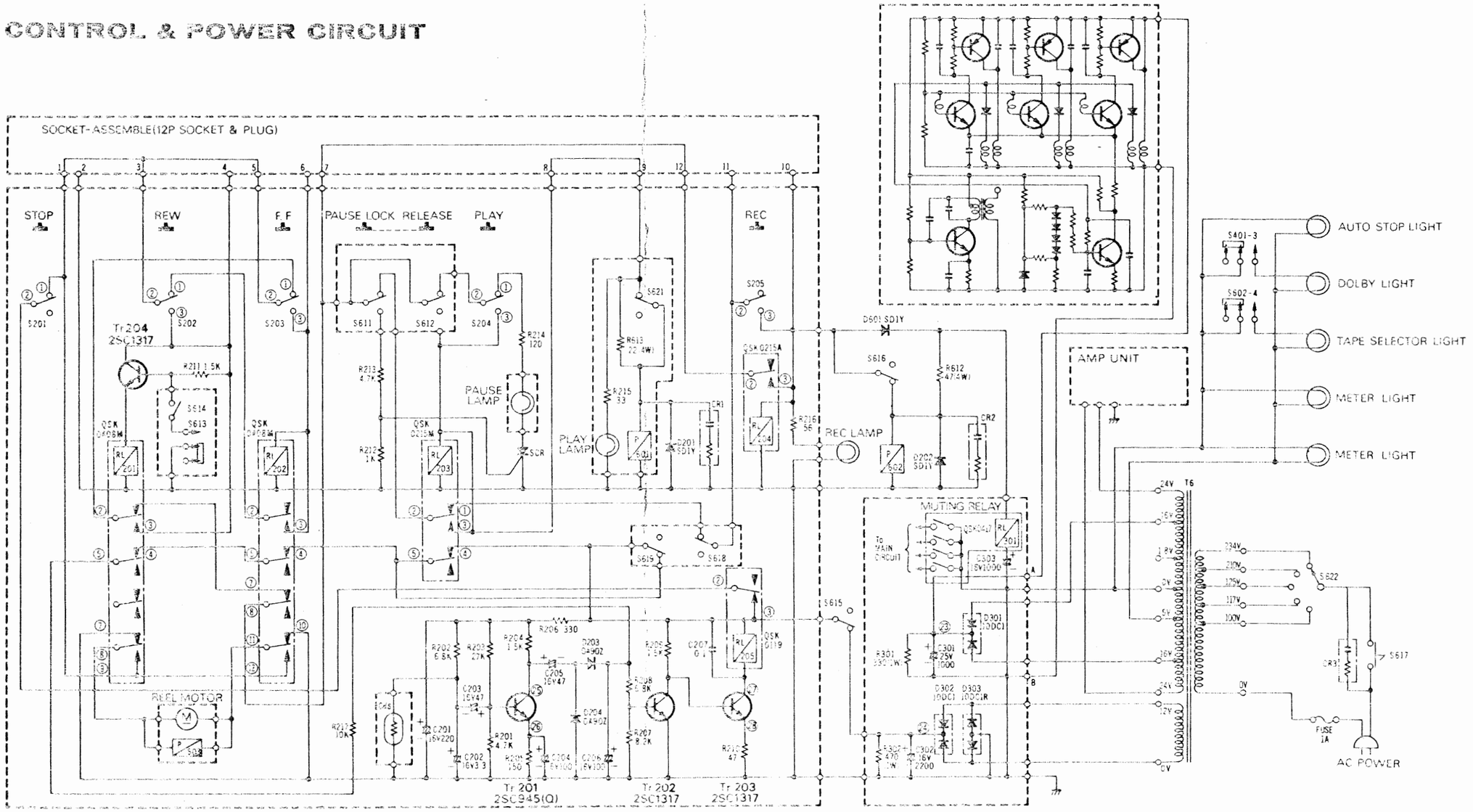
Check Point	Recording	Playback	Check Point	Recording	Playback
①	+2.65V	+2.67V	⑫	+1.25V	+1.3V
②	+0.58V	+0.6V	⑬	+18.4V	+18.6V
③	+4.0V	+4.2V	⑭	+11.3V	+11.5V
④	+2.05V	+2.08V	⑮	+9.5V	+9.8V
⑤	+4.5V	+4.7V	⑯	+1.65V	+1.7V
⑥	+0.85V	+0.88V	⑰	+18.4V	+18.6V
⑦	+12.5V	+12.8V	⑱	+14.0V	+14.2V
⑧	+7.8V	+7.9V	⑲	+10V	—
⑨	+10.6V	+10.8V	⑳	+0.2V	—
⑩	+1.15V	+1.2V	㉑	+25V	+25V
⑪	+9.5V	+9.8V	㉒	+20V	+20V

NOTE: All measurements are under no signal conditions with volume at minimum position.
Use VTVM for voltage measurements.

NOTE:

1. S1-1~1-18 ..... Record playback select switch (shown in playback position).
2. S601-3~S601-5 ..... Dolby NR switch (shown in out position).
3. S602-1~S602-4 ..... Tape select switch (shown in normal position).
4. S603-1, S603-2 ..... Input select switch (shown in MIC position).
5. S604-1, S604-2 ..... Muting switch (open at playback mode).
6. S620-1~S620-2 ..... Monitor select switch.
7. VR1, 2 ..... Playback equalizer adjustment VR.
8. VR3, 4 ..... Playback level adjustment VR.
9. VR5, 6 ..... Recording current adjustment VR.
10. VR7, 8 ..... Level indicator adjustment VR.
11. VR601, 602 ..... Recording level control VR.
12. VR603, 604 ..... Output level control VR.
13. VR605-1, VR605-2 ..... Dolby NR level control VR.
14. VC1, VC2 ..... Recording bias current adjustment VC.
15. Resistors are ohms (Ω), 1/4 watt unless specified otherwise. K=1,000Ω.
16. Capacitors are microfarad (μF) unless specified otherwise. P=Pico-farads.
17. Encircled numbers (①) show the check-points for voltage. The values are marked in the standard voltage chart.

CONTROL & POWER CIRCUIT



STANDARD VOLTAGE CHART

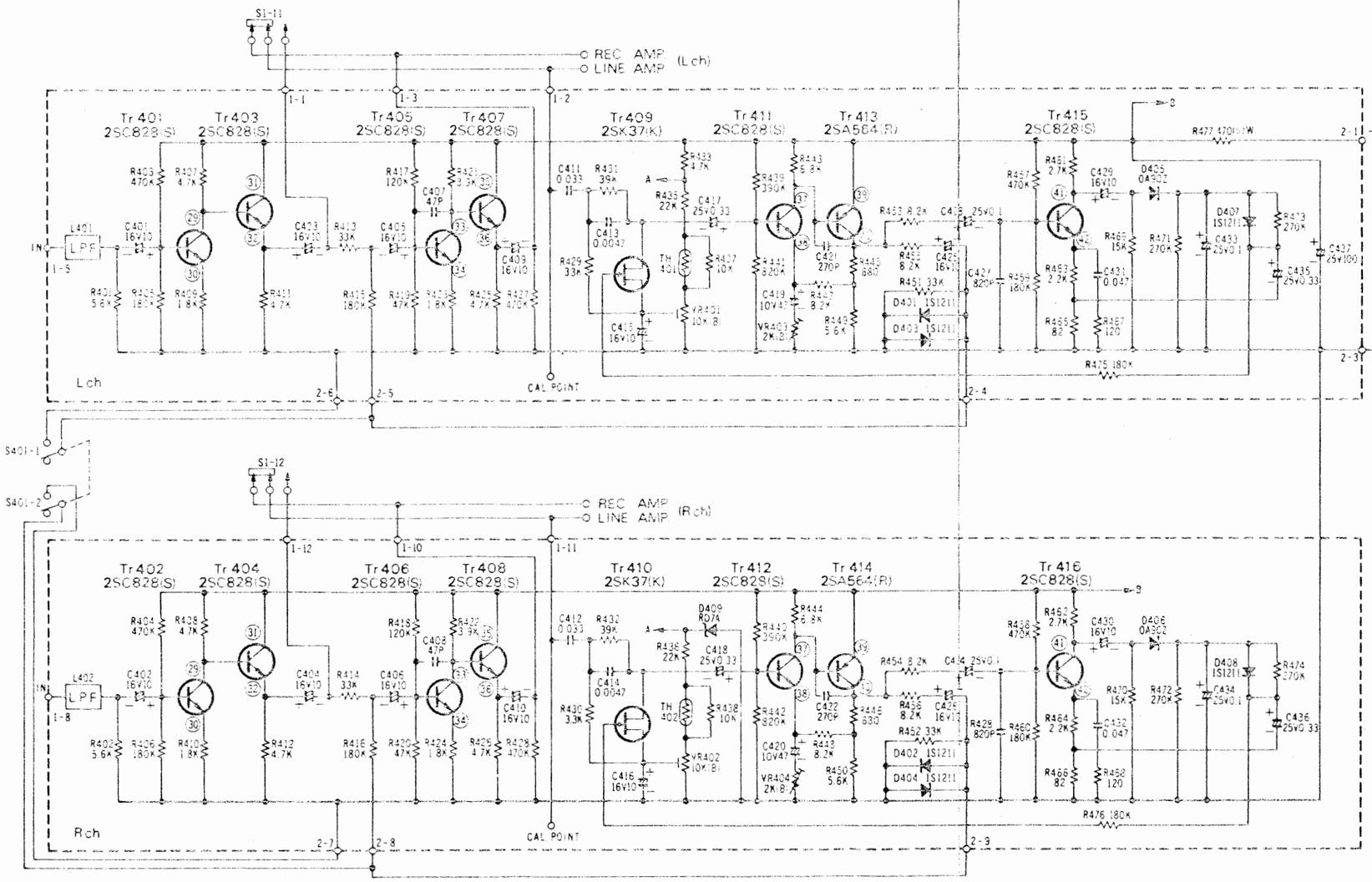
Check Point	Recording	Playback	Check Point	Recording	Playback
㉓	+16V	+16V	㉖	+0.6V	+0.7V
㉔	+12V	+12V	㉗	+11.7V	+11.8V
㉕	+4V	+4.1V	㉘	+0.015V	+0.02V

NOTE: All measurements are under no signal conditions with volume at minimum position.
Use VTVM for voltage measurements.

NOTE:

1. S201..... Stop button switch.
2. S202..... Rewind button switch.
3. S203..... Fast forward button switch.
4. S204..... Play button switch.
5. S205..... Record button switch.
6. S611..... Pause lock button switch.
7. S612..... Pause release button switch.
8. S613..... Memoly rewind push switch.
9. S614..... Memoly counter.
10. S615..... Power supply switch (close cassette in).
11. S616..... Current save switch (cooperating with P502).
12. S617..... Power switch.
13. S618..... Knock out tub senser (close when cassette with knock out tub in).
14. S619..... Pause senser (cooperating with P501).
15. S621..... Plunger voltage select switch.
16. S622..... Voltage select switch.
17. Resistors are ohms (Ω). 1/4 watt unless specified otherwise. K=1,000Ω.
18. Capacitors are microfarad (μF) unless specified otherwise. P=Pico-farads.
19. Encircled numbers (○) show the checkpoints for voltage. The values are marked in the standard voltage chart.

DOLBY CIRCUIT



STANDARD VOLTAGE CHART

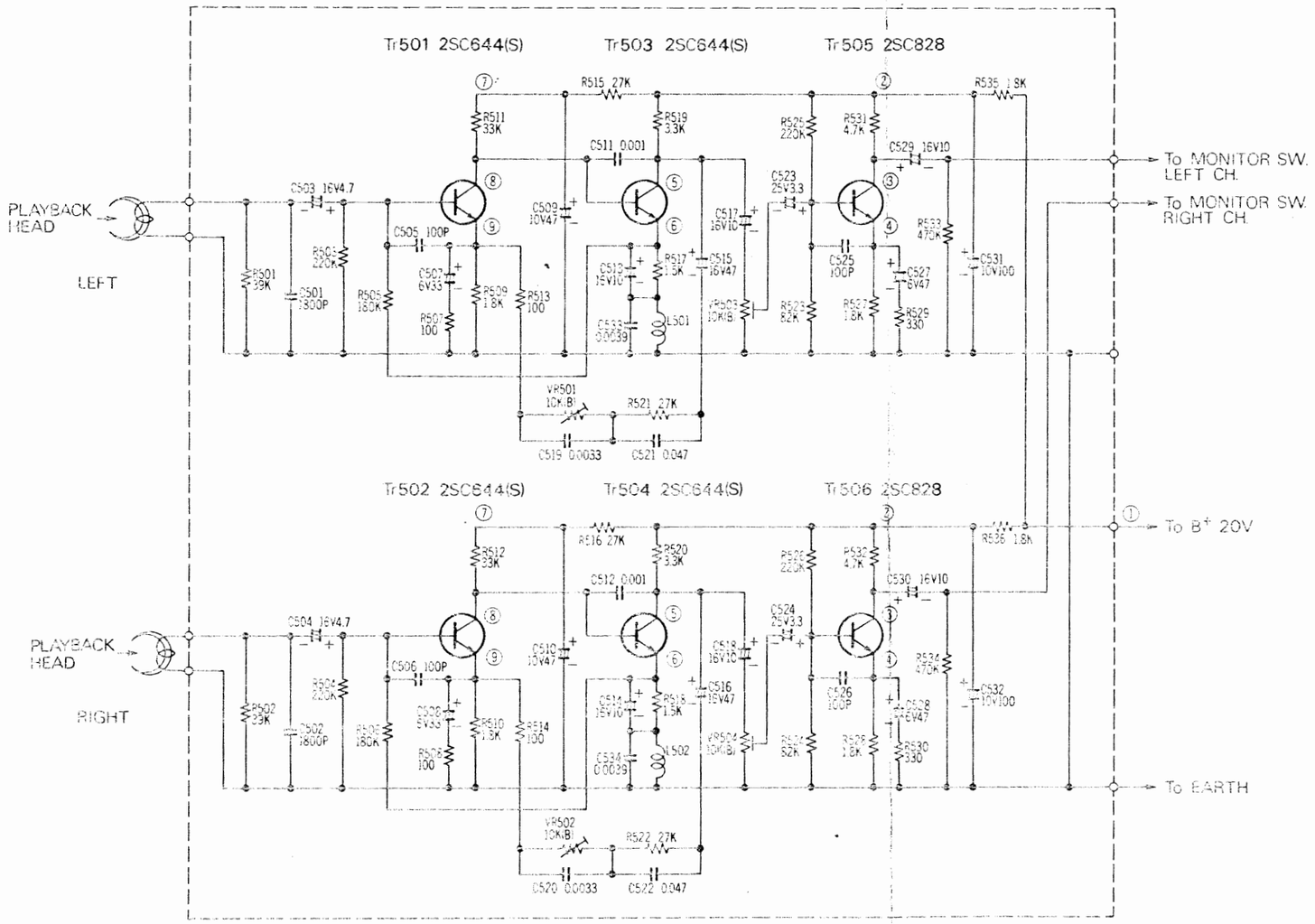
Check Point	Recording	Playback	Check Point	Recording	Playback
29	+5.8V	+6V	37	+5.3V	+5.5V
30	+1.9V	+1.95V	38	+10.5V	+10.6V
31	+11.2V	+11.2V	39	+6.8V	+7.0V
32	+5.3V	+5.5V	40	+11.2V	+11.2V
33	+5.8V	+6V	42	+6.6V	+6.8V
34	+2.2V	+2.4V	41	+8.8V	+9V
35	+11.2V	+11.2V	43	+2V	+2V

NOTE: All measurements are under no signal conditions with volume at minimum position.
Use VTVM for voltage measurements.

NOTE:

1. S1-11, S1-12 ..... Record/playback select switch (shown in playback position).
2. VR401~VR404 ..... Dolby NR adjustment VR.
3. Resistors are ohms (Ω), 1/4 watt unless specified otherwise. K=1,000Ω.
4. Capacitors are microfarad (μF) unless specified otherwise. P=Pico-farads.
5. Encircled numbers (◯) show the checkpoints for voltage. The values are marked in the standard voltage chart.

MONITOR CIRCUIT



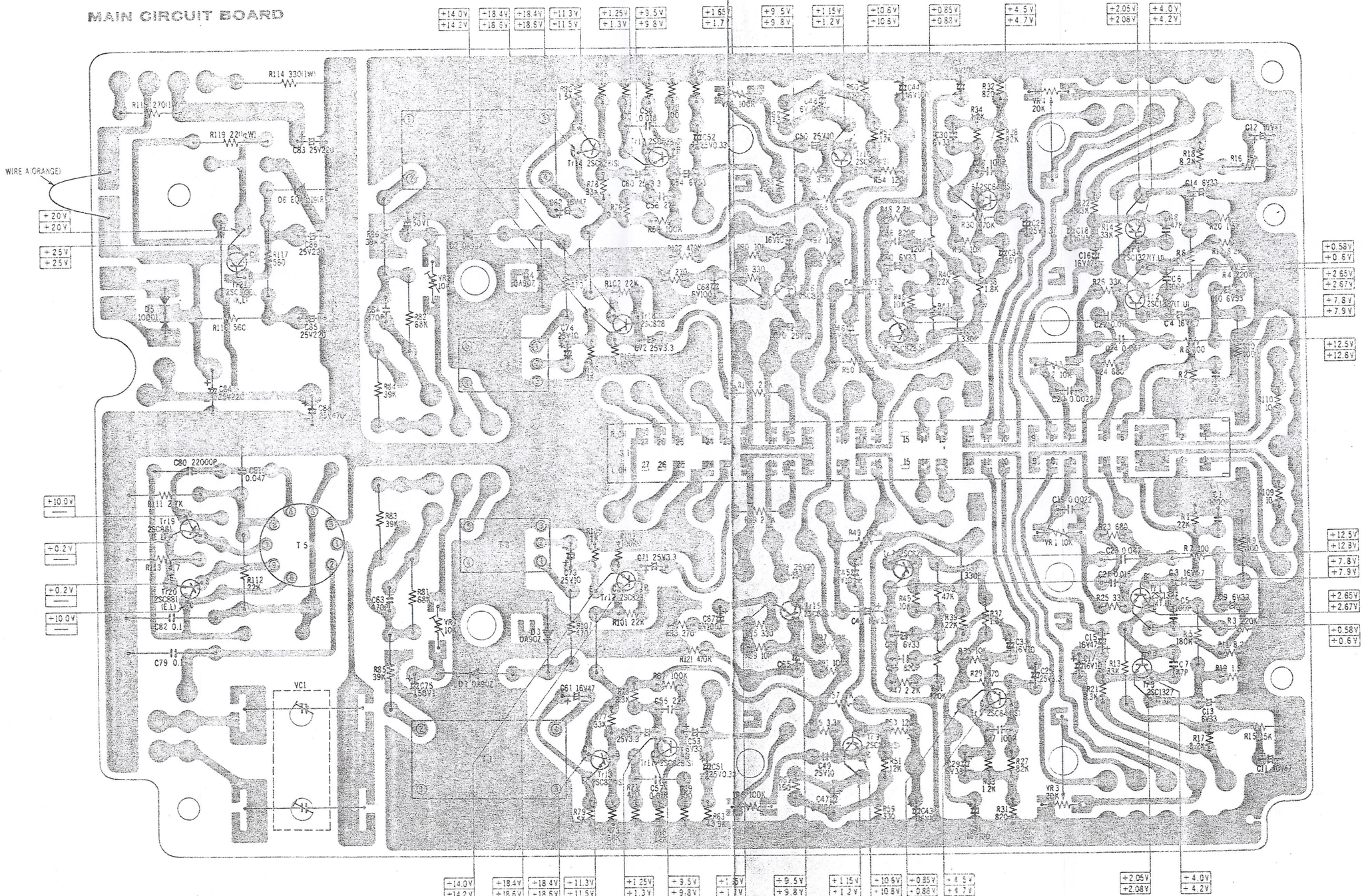
STANDARD VOLTAGE CHART

Check Point	Voltage	Check point	Voltage
①	+20V	⑥	+1.7V
②	+11.5V	⑦	+8.1V
③	+5.5V	⑧	+2.2V
④	+2.0V	⑨	+0.7V
⑤	+8V		

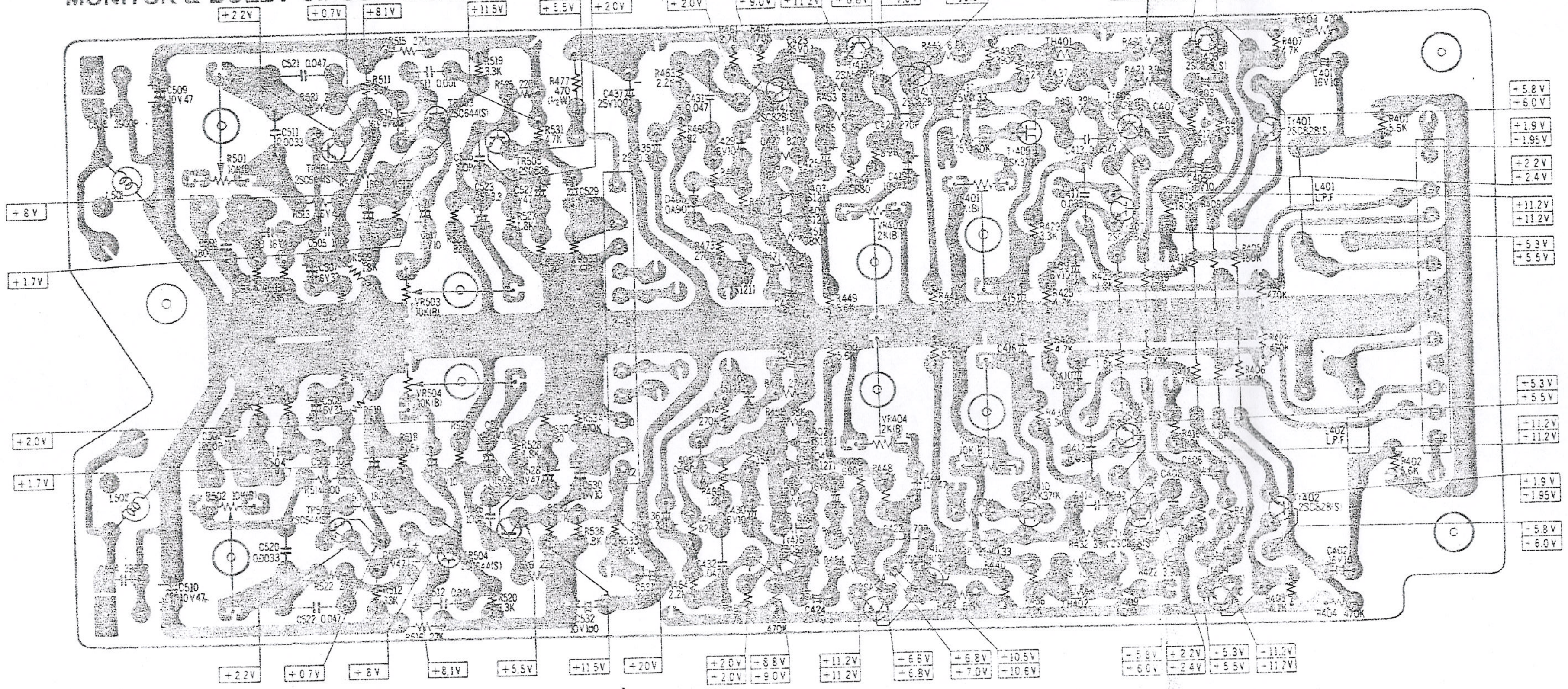
NOTE: All measurements are under no signal conditions with volume at minimum position.
Use VTVM for voltage measurements.

CIRCUIT BOARD

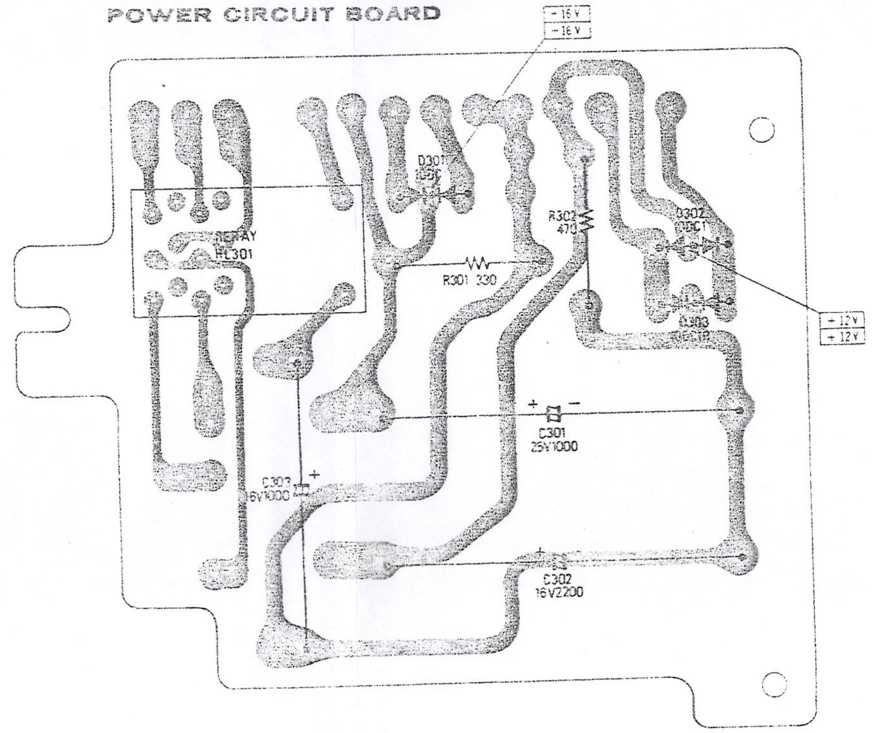
MAIN CIRCUIT BOARD



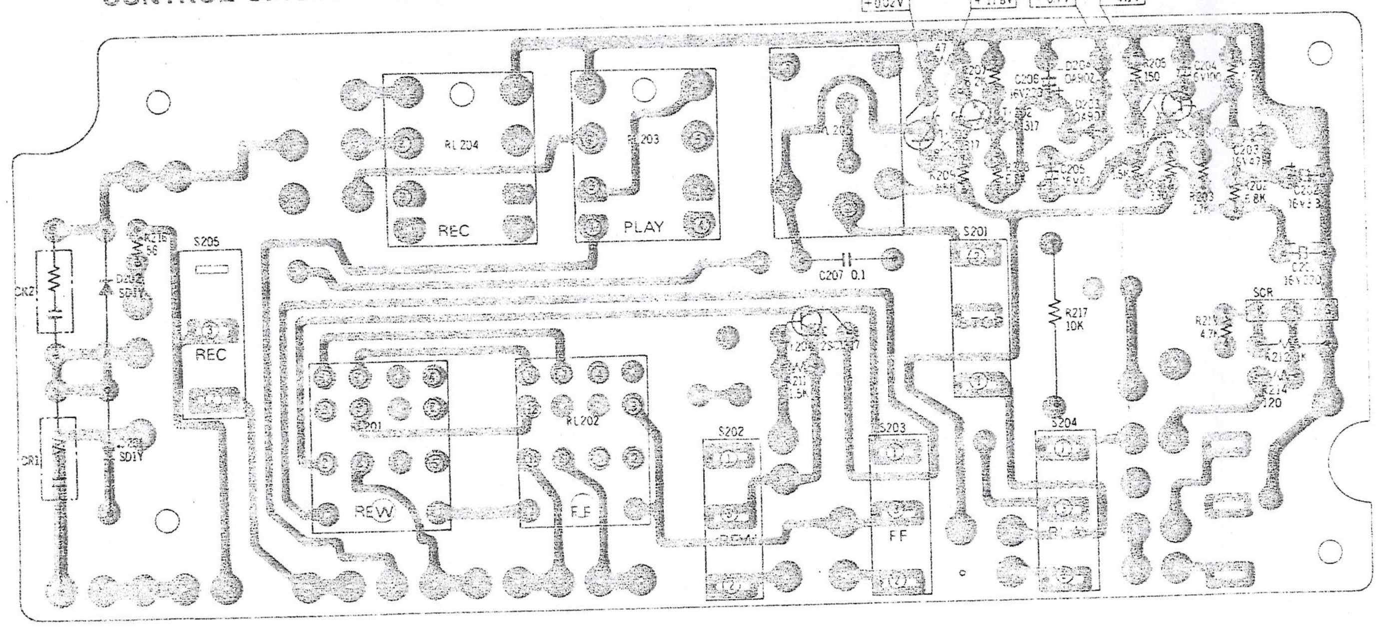
MONITOR & DOLBY CIRCUIT BOARD



POWER CIRCUIT BOARD



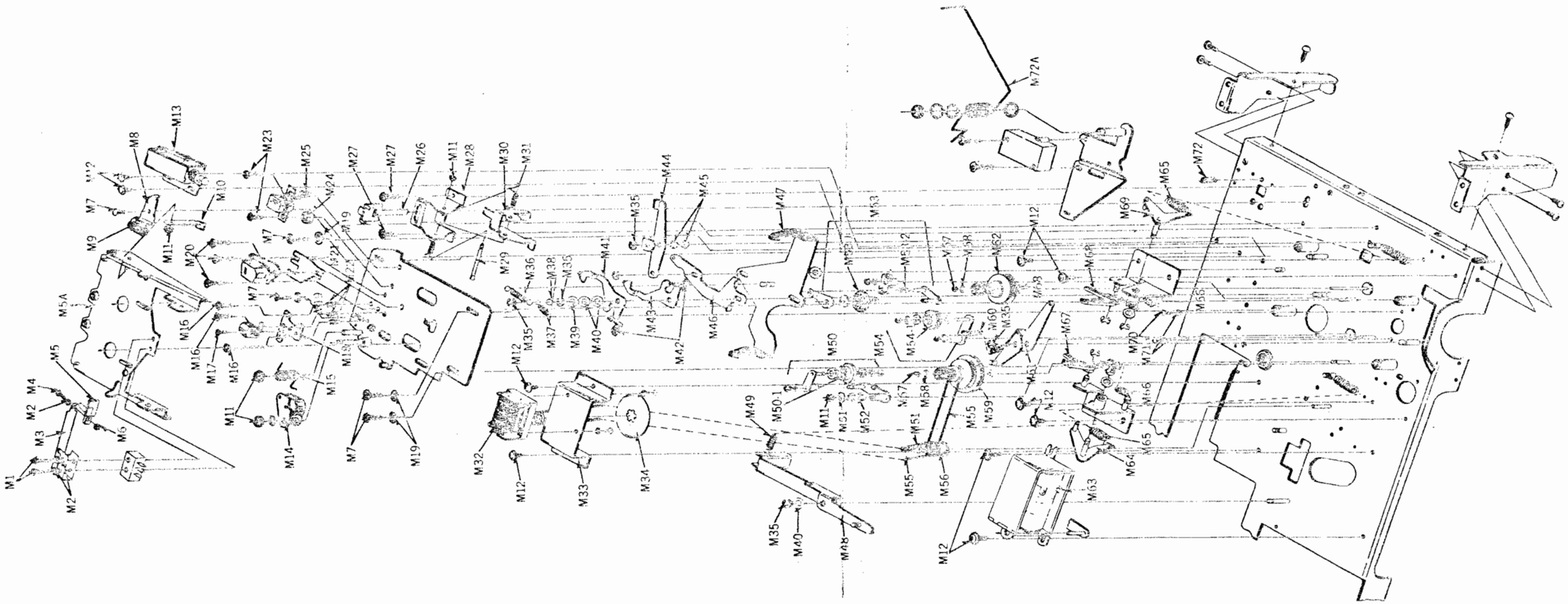
CONTROL CIRCUIT BOARD

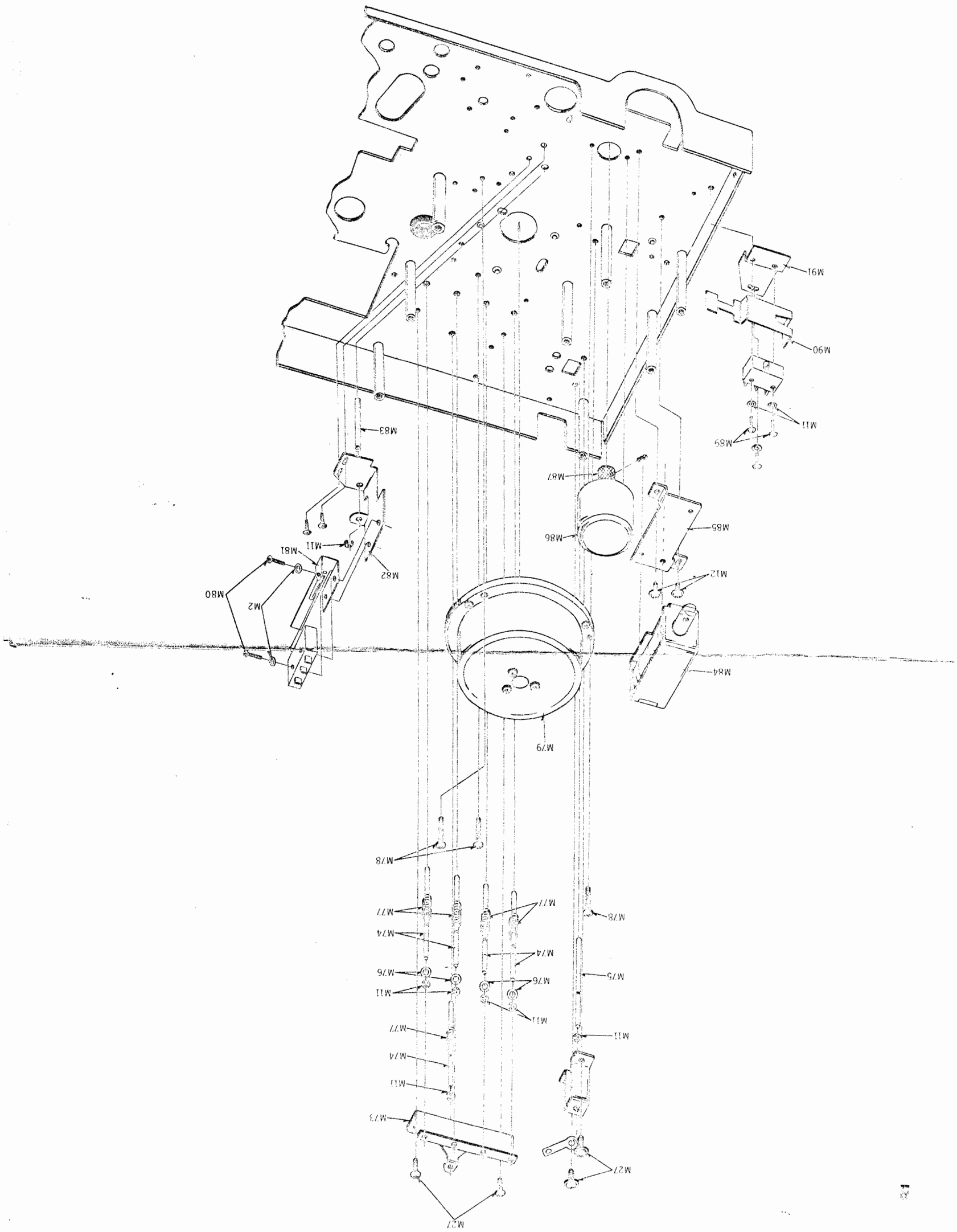


NOTE:

The circuit shown in green on the conductor is +B circuit.
Values indicated in ▭ are DC voltages between the chassis and electrical parts.
The upper values should be measured during recording and the lower values during playback.
The single values indicated in monitor circuit are for common use in record and playback mode.

EXPLODED VIEWS

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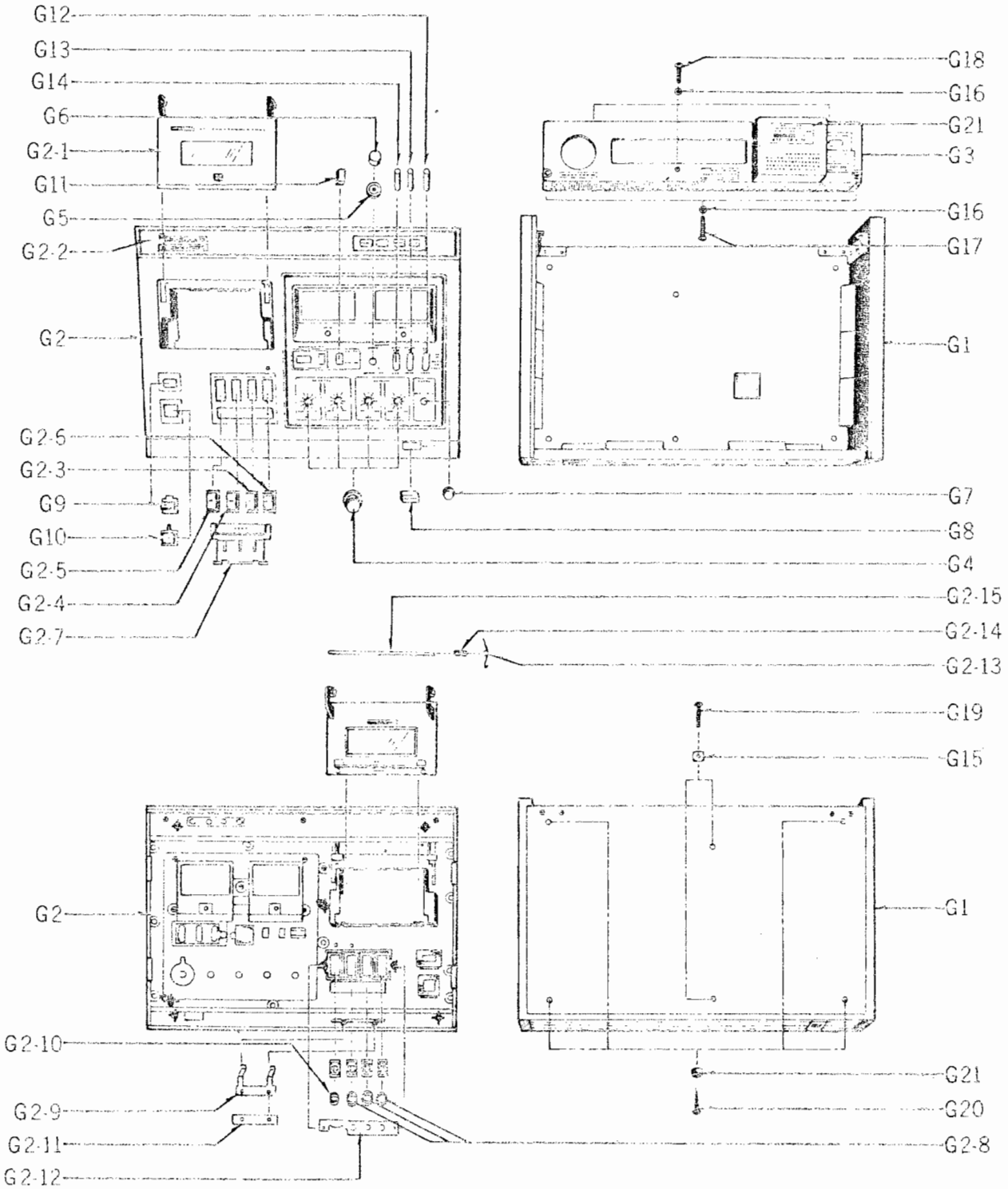
CABINET PARTS